



# Economic Impact of Ethanol in Missouri

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State Fleet Workshop  
August 2016

Division of Energy

# Alternative Fuel Use

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- State Law Requirement
- Economic Impacts
- Energy Security and Independence
- Environmental Impacts

# State Law Requirement

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- §§414.400–417, RSMo.
  - §414.400.1(1), RSMo. – defines E85 as alternative fuel
  - §414.400.2, RSMo. – requires at least 30% alternative fuel purchasing annually
  - §37.455, RSMo. – E85 flex-fuel vehicle acquisition requirement set to 70%

# State Law Requirement

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- During FY 2014, seven percent of all fuel used in eligible AFVs was the designated alternative fuel.
- When the biodiesel used to refuel exempt diesel vehicles and the other fuels used in exempt AFVs are included, the percent of alternative fuel reported used rose to 20 percent.



# Corn Farming Value (2014)

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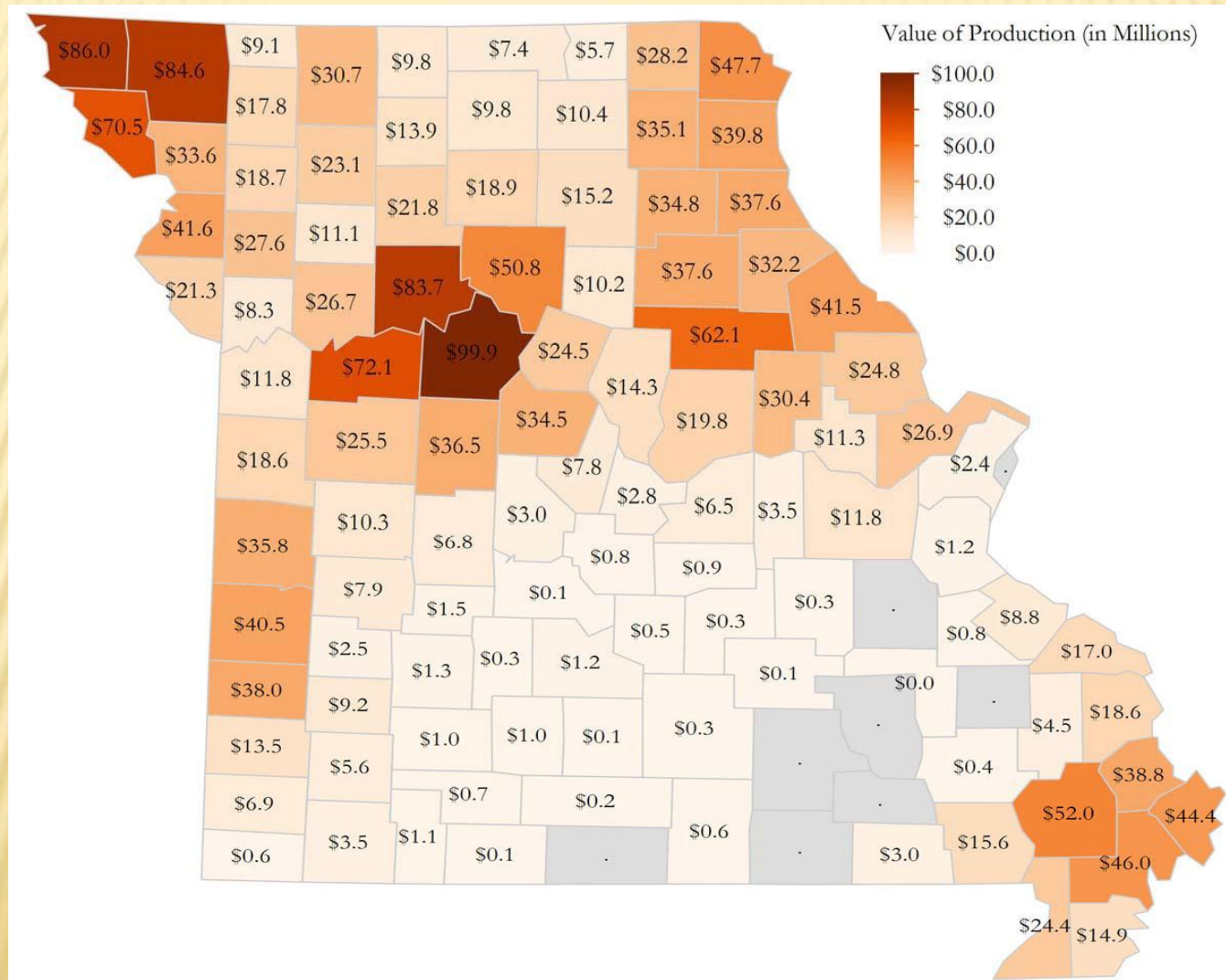
- \$625.7 million labor
- \$1.106 billion in value added (GDP)
- 22,075 jobs
- Ranked 3<sup>rd</sup> in commodity cash receipts in Missouri

# Combined Corn Farming and Ethanol Production Value (2000-2014)

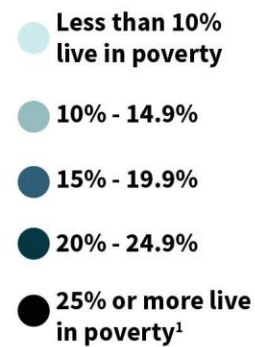
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- \$13.4 billion to state's economy
- \$6.2 billion in labor income
- Enhanced land ownership returns

# Value of Production by County (2014)



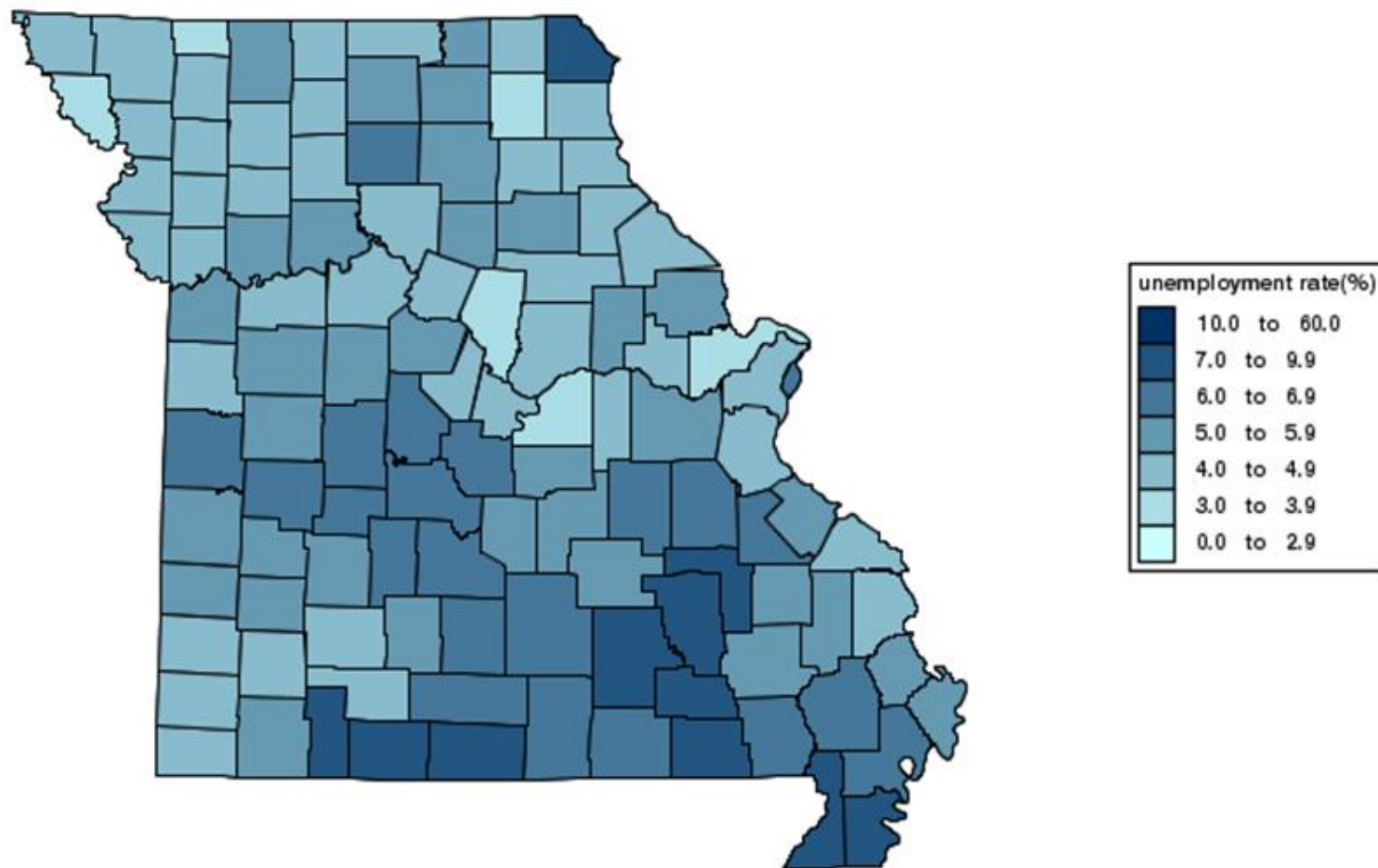


Percentage of individuals at or below 100% of the federal poverty level<sup>2</sup>Percentage of individuals at or below 100% of the federal poverty level<sup>2</sup>

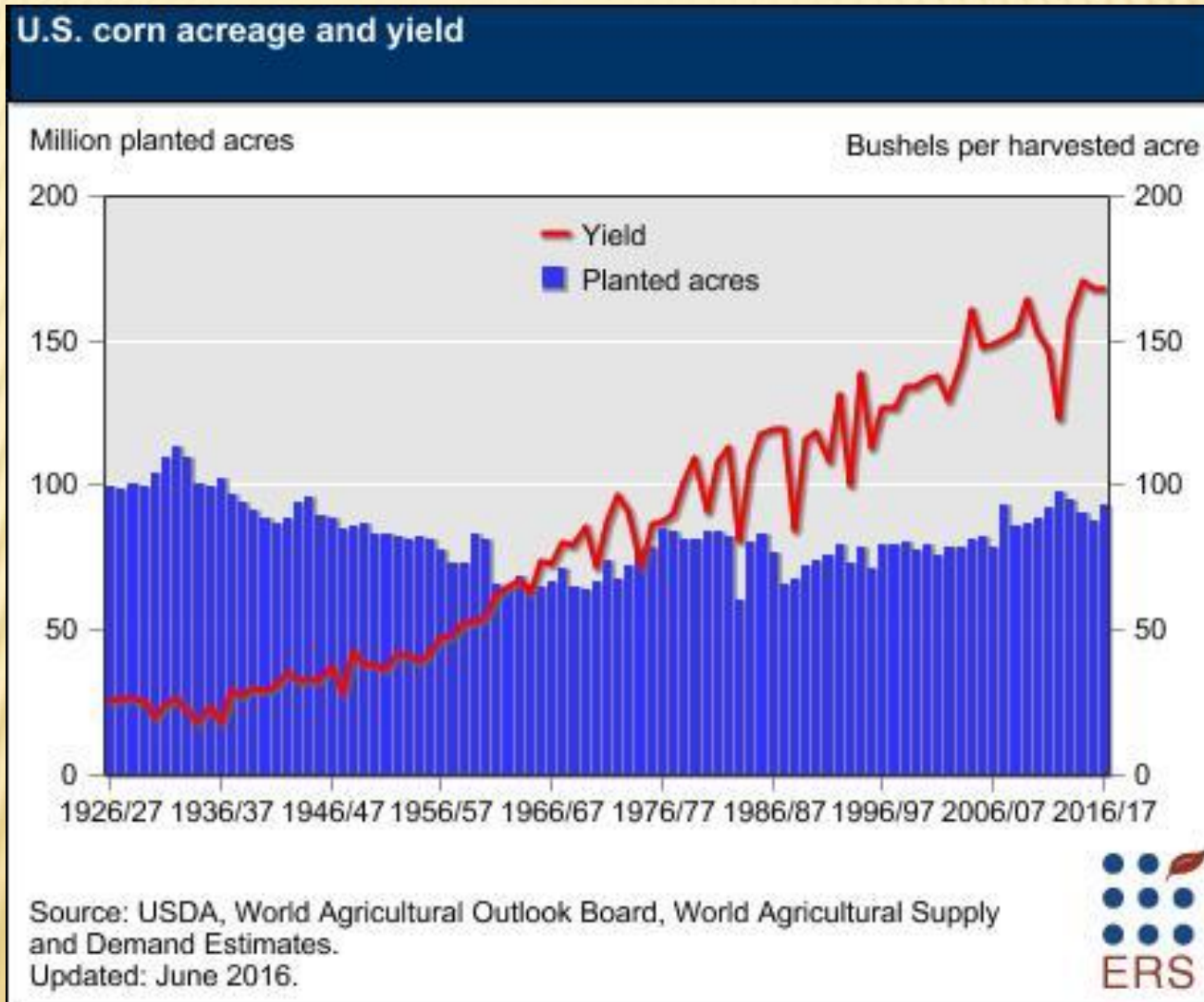
Graphic: 2016 State of the State: Poverty in Missouri Report | Missourians to End Poverty  
Source: 2014 U.S. Census Small Area Income & Poverty Estimates, Missouri Counties, December 2015



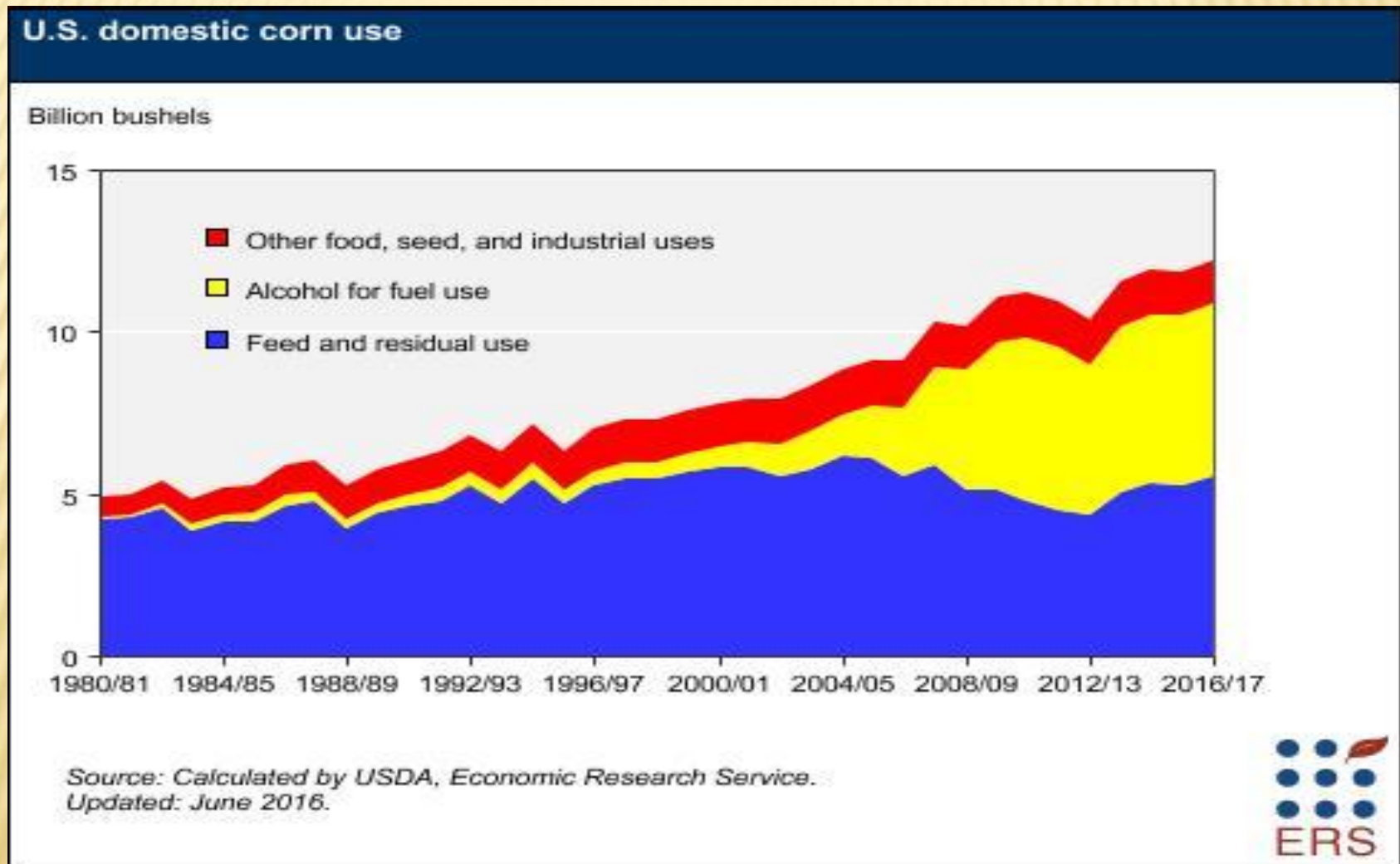
Unemployment rates by county, not seasonally adjusted, Missouri Annual 2015



# Corn Production vs Acres



# Corn Used in Ethanol Production



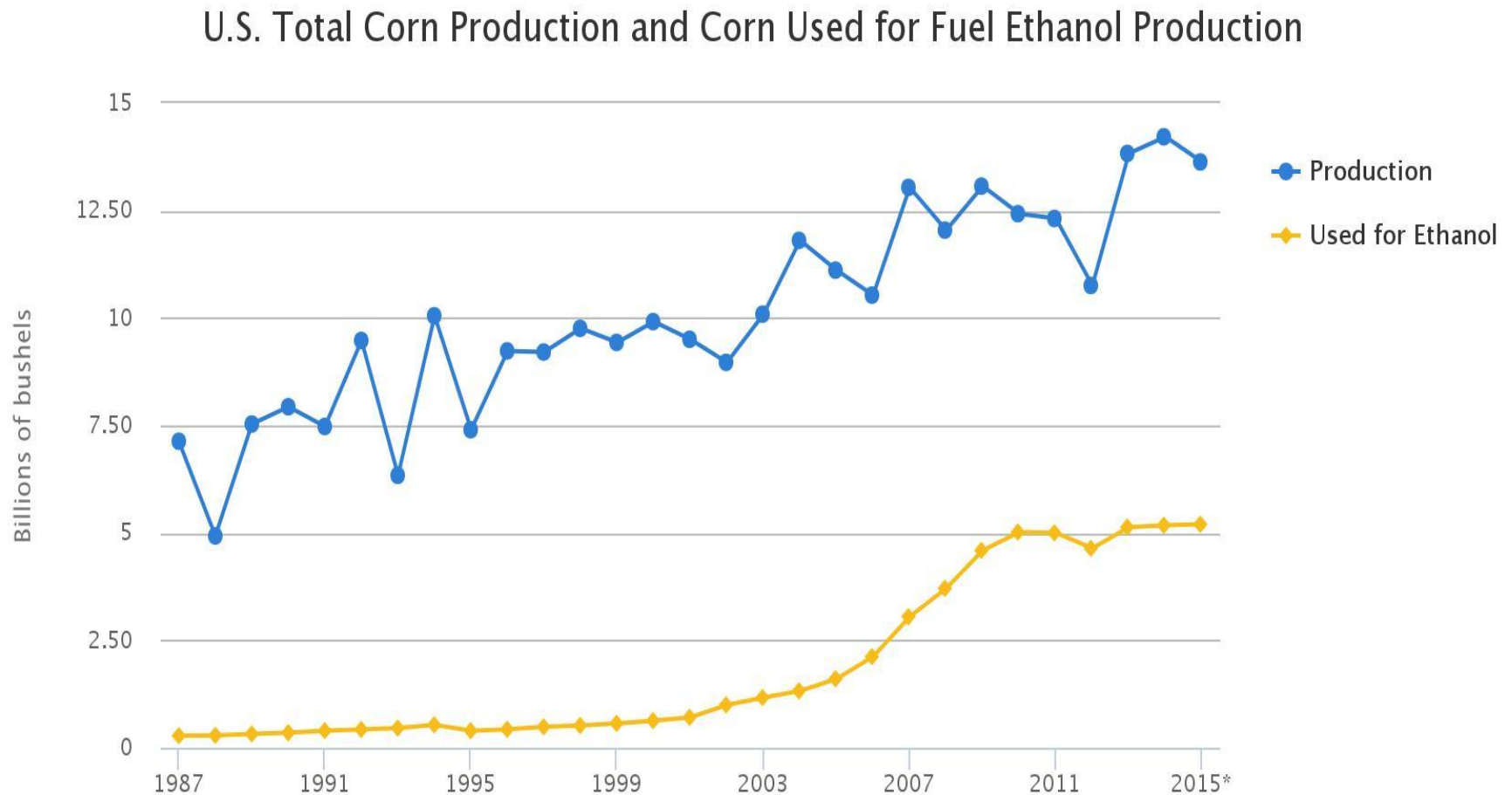


# Ethanol Plants in Missouri (2016)

Ethanol Producer	Location	Nameplate Capacity (MMGY)	Operating Production (MMGY)
Golden Triangle Energy, LLC*	Craig	20	5
Lifeline Foods, LLC	St. Joseph	50	50
Mid-Missouri Energy, Inc.	Malta Bend	50	50
POET Biorefining - Laddonia	Laddonia	50	50
POET Biorefining - Macon	Macon	46	46
Show Me Ethanol	Carrollton	55	55

- At ~256 MMGY, 13<sup>th</sup> in nation for operating production capacity

# Corn Used in Ethanol Production



Last updated: July 2015

Printed on: July 6

# Economic Impact

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- Direct Impact on Producers
  - Product diversification
  - Higher market prices
  - Higher land values
- Community and Regional Development
  - Locally owned businesses
  - Job creation
  - Multiplier effects
- Generates state and local tax revenue



# Ethanol Production and Value (2014)

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- 280 million gallons
- 89.9 million bushels of corn
- \$718 million value of production (ethanol and distillers grain)

# Ethanol Production and Value (2014)

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- 1,411 jobs
- \$84.2 million in labor income
- \$163.1 million value added to Missouri's GDP

# Energy Independence and Security (2014)

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In-state expenditures on all petroleum products as consumed (incl. fuel ethanol blended into gas): over \$16.4 billion (17<sup>th</sup> highest in nation)



# Energy Independence and Security (2014)

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- We are heavily dependent on out-of- state supplies delivered through interstate pipelines
  - In-state crude oil production: 195,481 barrels
  - In-state petroleum products use (incl. lubricants, fuel ethanol blended into gas): 103,731 **thousand** barrels
  - Last in-state petroleum refinery closed in 1982
- Ethanol blends contribute to reducing our dependence on out-of-state resources

# Environmental Impacts

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- Land use
  - 2011: 25% of US corn acreage, accounting for feed co-products
  - Expected to decline
- Emissions
  - 19-48% life-cycle GHG emissions reduction
  - Minimal contribution of corn ethanol to carbon emissions from land use changes
  - Increased ethyl aldehyde tailpipe emissions – possible carcinogen, contributes to ozone formation
- MDNR estimates ~500 MMGY cellulosic ethanol production potential in MO
  - ~15% state automotive fuel use

# For More Information:

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- Economic Contribution of the Missouri Corn and Ethanol Industry  
<http://crops.missouri.edu/audit/corn.htm>
- U.S.D.A Economic Research Service  
<http://ers.usda.gov/data-products/state-export-data.aspx>
- Missouri Division of Energy  
<https://energy.mo.gov/energy/services/missouri-state-fleet-efficiency-and-alternative-fuels-program>





**Department of Economic Development**

# **Missouri State Fleet Efficiency and Alternative Fuel Program**

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## **For More Information Contact**

**Missouri Division of Energy**

**Phone: (573) 751-2254**

**Fax: (573) 751-6860**

**Email: [energy@ded.mo.gov](mailto:energy@ded.mo.gov)**